Figure 1

10

Colorspace	*Bytes/frm*	*24 fps bytes/sec.*	*30 fps bytes/sec.*
YCbCr8	4147200	99532800	124416000
YCbCr10	5184000	124416000	155520000
RGB8	6220800	149299200	186624000
RGB10	8294400	199065600	248832000
RGB12	12441600	298598400	373248000

Fig 2A

Pixels 1–2			
Byte 1	Byte 2	Byte 3	Byte 4
u u u u u u u u	y y y y y y y y	v v v v v v v v	y y y y y y y y
left			right

Fig 2B

Pixel 1				
Byte 1	Byte 2	Byte 3	Byte 4	Byte 5
u u u u u u u u	u u y y y y y y	y y y y v v v v	v v v v v y y	y y y y y y y y
left				right

RGB8

Fig 2C

Pixel		
Byte 1	Byte 2	Byte 3
r r r r r r r r	g g g g g g g g	b b b b b b b b

RGB10

Fig 2D

Pixel			
Byte 1	Byte 2	Byte 3	Byte 4
r r r r r r r r	r r g g g g g g	g g g g b b b b	b b b b b b a a

RGB12

Fig 2E

Pixel					
Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6
rrrrrrrr	rrrrxxxx	gggggggg	ggggxxxx	bbbbbbbb	bbbbxxxx

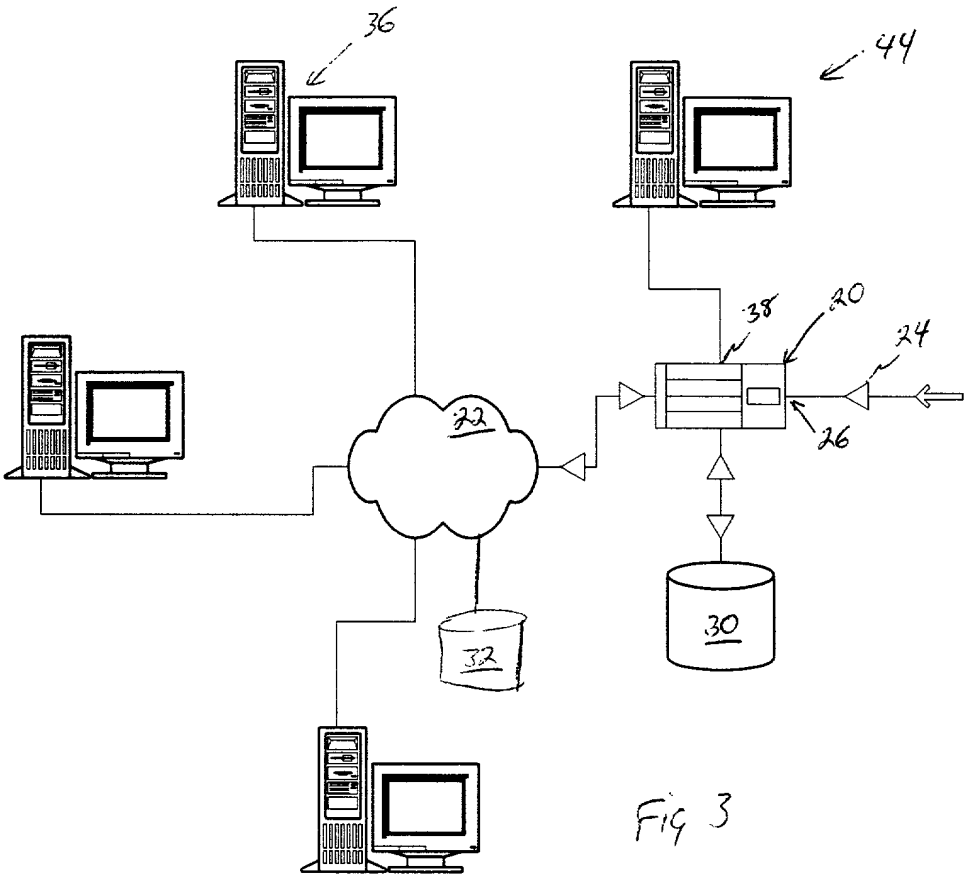


Fig 3

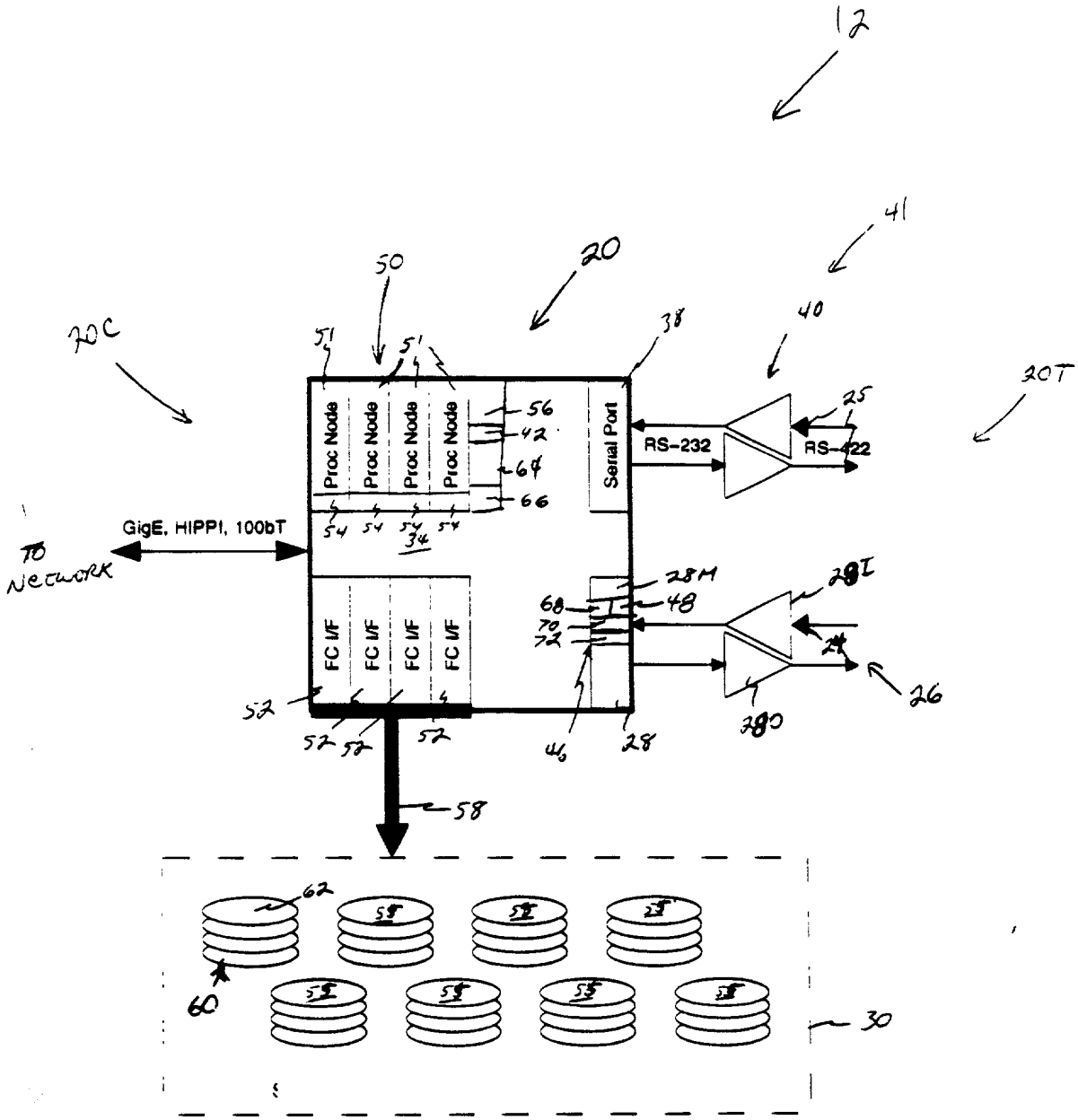
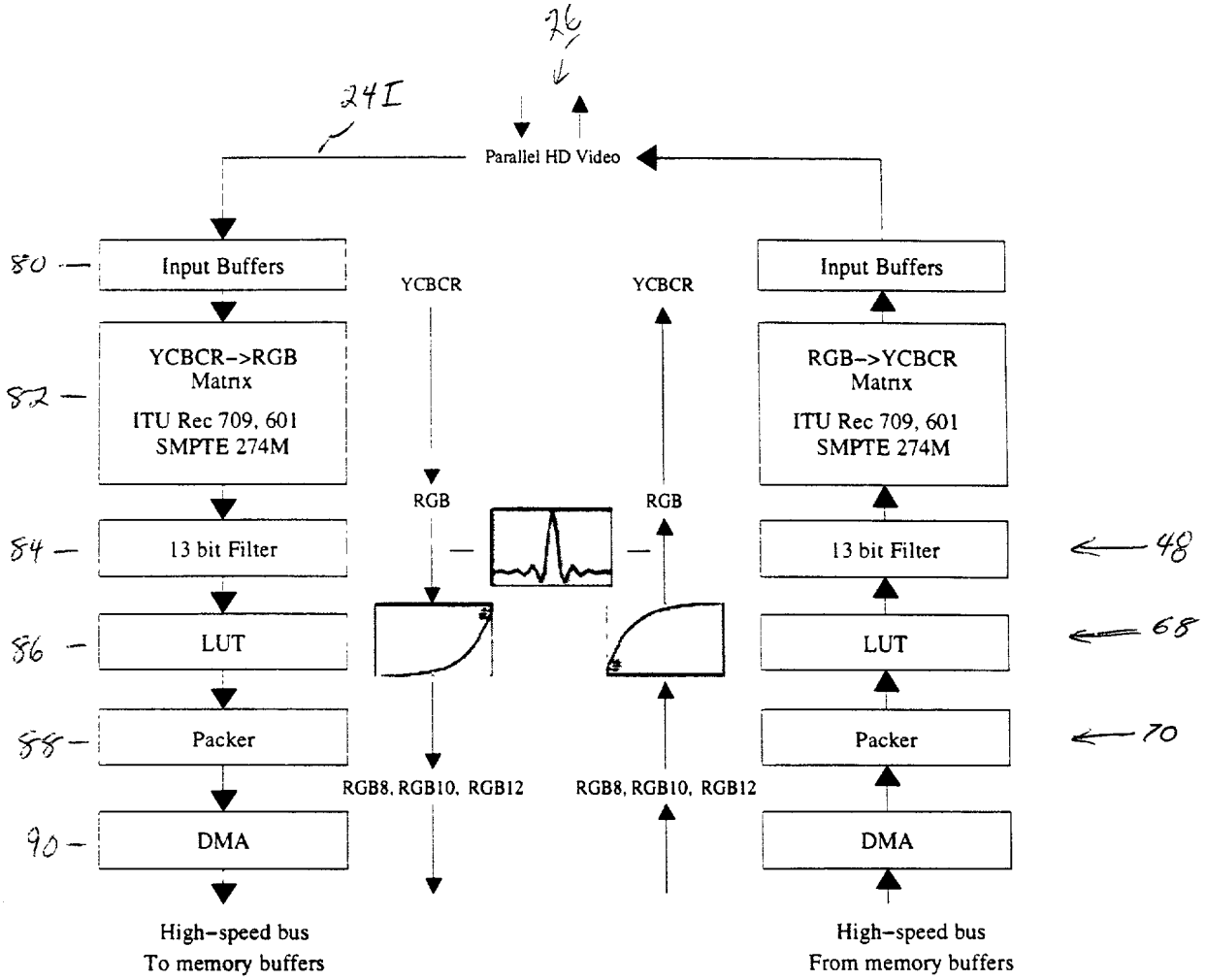

12
41
20
50
20C
40
38
20T
Proc Node
Proc Node
Proc Node
Proc Node
Serial Port
RS-232
RS-422
25
56
42
64
66
54
34
GigE, HIPPI, 100bT
TO NETWORK
28M
28I
68
48
70
72
24
26
FC I/F
FC I/F
FC I/F
FC I/F
52
46
28
28O
58
62
60
30

Figure 4


76
24I
Parallel HD Video
80
Input Buffers
YCBCR
YCBCR
Input Buffers
82
YCBCR->RGB
Matrix
ITU Rec 709, 601
SMPTE 274M
RGB->YCBCR
Matrix
ITU Rec 709, 601
SMPTE 274M
RGB
RGB
84
13 bit Filter
13 bit Filter
48
86
LUT
LUT
68
88
Packer
Packer
70
RGB8, RGB10, RGB12
RGB8, RGB10, RGB12
90
DMA
DMA
High-speed bus
To memory buffers
High-speed bus
From memory buffers

46

Figure 5

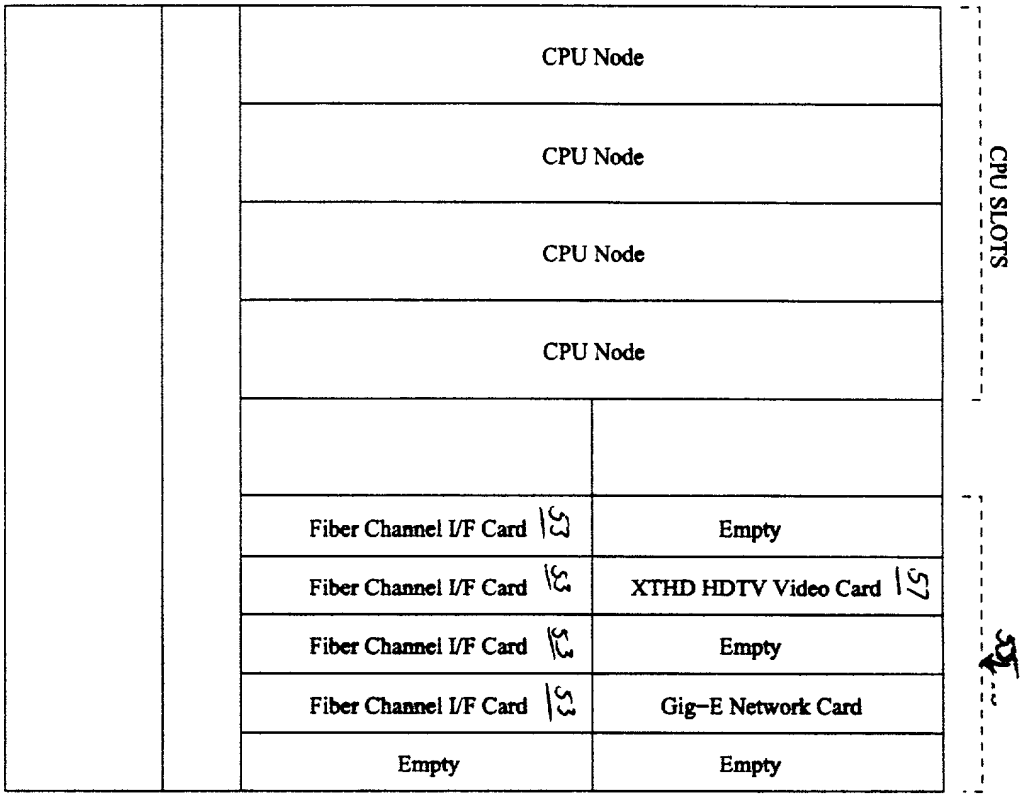

CPU Node
CPU Node
CPU Node
CPU Node
Fiber Channel I/F Card
Empty
Fiber Channel I/F Card
XTHD HDTV Video Card
Fiber Channel I/F Card
Empty
Fiber Channel I/F Card
Gig-E Network Card
Empty
Empty
CPU SLOTS

Fig 6